

CLAIMS

1. A fire retardant composition comprising:
 - 5 (a) water in an amount at least sufficient to dissolve the following (b) to (e) water soluble components up to an amount to be non corrosive,
 - (b) a highly concentrated alkali, selected from a group, consisting of at least one of, or a combination thereof, of sodium hydroxide, potassium hydroxide and/or lithium hydroxide,
 - 10 (c) at least one of, or a combination thereof, of anhydrous citric acid, citric acid, acetic acid or a related salt thereto,
 - (d) a phosphate,
 - (e) an alkali metal salt or compound selective from at least one of, or in combination with lithium, sodium and/or potassium cation in combination with at least one of an acetate, bicarbonate, carbonate and/or hydroxide anion,
 - 15 wherein said composition is adjusted to a pH value between 6.5 to 7.5 by an amount of (b) and/or (c) respectively.
2. The composition of claim 1, wherein the concentrate of the acetic acid is above 90%.
3. The composition of any one of the preceding claims, wherein the highly
20 concentrated alkali is at a concentration of greater than 80%.
4. The composition of claim 3 wherein the highly concentrated alkali is potassium hydroxide.
5. The composition of any one of the preceding claims, wherein the phosphate is tetra potassium pyro phosphate.
- 25 6. The composition of claim 5 further comprising an anhydrous dipotassium

carbonate.

7. The composition of claim 6 further comprising a softening agent.

8. The composition of claim 7 wherein the composition is adjusted for a resultant specific gravity in the range of 1.1 to 1.4.

5 9. The composition of claim 8 wherein the composition has a specific gravity of about 1.3.

10. The composition of any one of the preceding claims wherein the alkali metal salt or compound is potassium acetate.

10 11. The composition of claim 7 comprising the range of about 28% to 38% by weight of said water.

12. The composition of claim 11 comprising the range of 15% to 25% by weight of the highly concentrated alkali.

13. The composition of claim 12 wherein said highly concentrated alkali is potassium hydroxide.

15 14. The composition of claim 13 wherein said component (c) is a combination of citric acid and acetic acid.

15. The composition of claim 14 comprising in the range of about 8% to 13% by weight of said acidic acid.

20 16. The composition of claim 13 comprising in the range of about 17% to 24% by weight of said acetic acid.

17. The composition of any one of preceding claims 11 to 16 comprising in the range of about 6% to 10% by weight of dipotassium carbonate.

18. The composition of any one of preceding claims 11 to 17 comprising in the range of about 2% to 3% by weight of tetra potassium pyrophosphate.

25 19. The composition of claim 18 comprising in the range of about 3% to 5%

sodium hydrogen carbonate.

20. The composition according to claim 19 comprising in the range of about .5% to 1.5% softening agent.

21. A method for the production for flame retardant composition wherein the
5 following components are added in sequence to a vessel under stirring;

(a) water in an amount at least sufficient to dissolve the following (b) to (e)
water soluble components up to an amount to be non corrosive,

(b) a highly concentrated alkali, selected from a group, consisting of at least one
of, or a combination thereof, of sodium hydroxide, potassium hydroxide and/or
10 lithium hydroxide,

(c) at least one of, or a combination thereof, of anhydrous citric acid, citric acid,
acetic acid or a related salt thereto,

(d) a phosphate,

(e) an alkali metal salt or compound selective from at least one of, or in
15 combination with lithium, sodium and/or potassium cation in combination with at
least one of an acetate, bicarbonate, carbonate and/or hydroxide anion,

whereby the added components are adapted such that the final product has a pH
value within the range of 6.5 to 7.5 and a density within the range of 1.2 to 1.4.

22. A method for the production for flame retardant composition wherein a
20 method for producing a fire retardant composition characterized in that the following
components are added in sequence to the vessel under stirring:

(k) water;

(l) potassium hydroxide;

(m) acidic acid;

25 (n) citric acid;

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- (o) dipotassium carbonate;
- (p) tetra potassium pyro phosphate
- (q) sodium hydrogen carbonate;
- (r) softener

5 whereby, the added components are adapted such that the final product has a pH value within the interval of 6.5 to 7.5 and a density within the range of 1.2 to 1.4.

23. The method according to either claim 21 or 22 characterised in that the components added under stirring are simultaneously influenced by an energy wave, generated mechanically, during the simultaneous influence of a variable
10 magnetic field, applied externally..

24. The fire retardant composition of claim 1 further comprising an expansion agent, propellant or compressed gas to produce a fire retardant foam.

25. A fire retardant composition substantially as herein described with reference to the examples.

15 26. A method of producing a fire retardant composition substantially as herein described with reference to the examples.

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